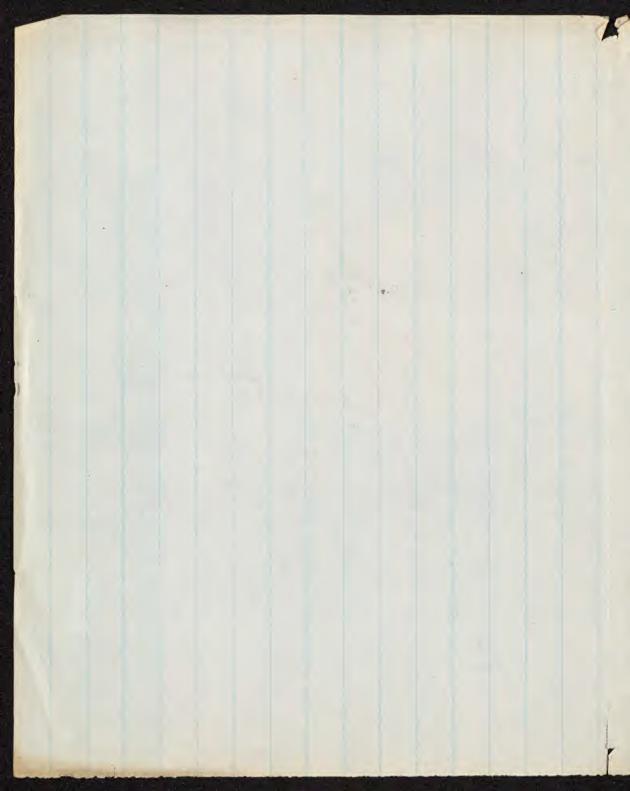
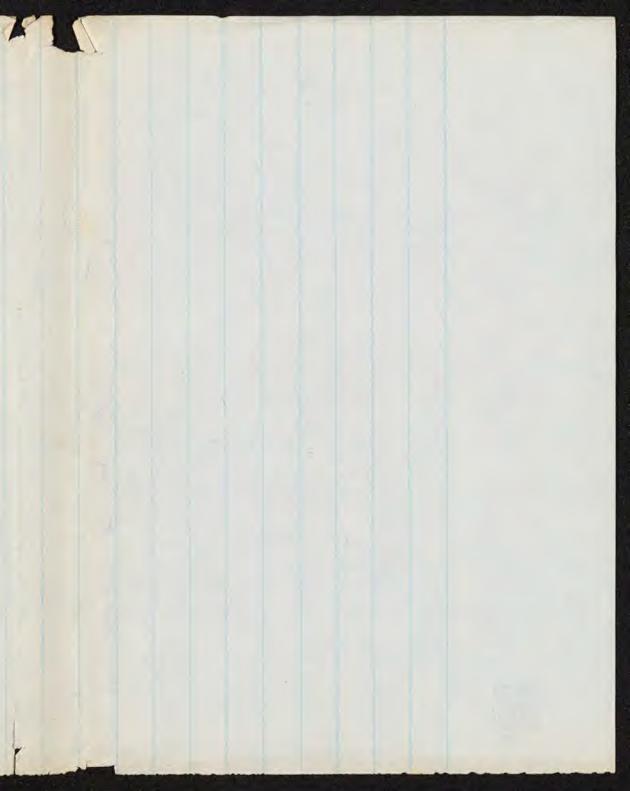


A Climate.





The highest heat is nearly the same in tropical and temperate HIGHEST HEAT. climates. The highest reported is 1460 at Bagdod. In the Great Desert it is 1340 Maryland in August 1340 120° in the shade is the highest recorded - is the lowest recorded Most of the ancients were aware of ANCIENTS. the influence of blists on health We distinguish hot & warm, and cold reool seasons. In the following dis DISEASES WARMINGES. lases prevail: respiratory affections (croup, quinsy, bronchitas, xc.), rheumalism, contagious diseases, erysipelas, puerperal fever se. Ila mon dianhoa, diputes DISEASES In the fatter: stomach, bowels I liver complaints, malarial & yellow fever, & cholera se. The amount of cholera infantum in this city always depends on the temperature. The mortality of old persons is MORTALITY THECLD greatest in cold weather; that

Causes of Climatic Variation CAUSES XIC 1. Latitude 2. Altitude. 3. Nearness to Oceans, Lakes, See. 5. Outline of Coasts. Nearness to Mountains or Deserts, 7. Prevailing Winds. 1 Oceanic Currents. 8. Rain & Clouds. Clements of Climate ELEMENTS MATE. Temperature, { !. Annual Mean. Rumidity } { 2. Extremo Range. 3. Mutability. Atmosphere (2. Malarious Add Table from p. 106, same day

human and other of children, in hot weather.

Climate is the aggregate of the local conditions of a region which affector ganic life. CLIMATE. ganio life. Causes of variation (opposite page). The directness or obliquity of the sun's raip has effection climate. Altitude has effect in any latitude. This may be illustrated by the perceptible differences of temperature in climbing a mountain. SNOW, NE 2. The snow line is different in different lalitudes. One degree of heat is lost for every 300 ft. of ascent 8000 ach. Oceans evidently affect. Water moderales temperature. It absorbs heat during the day, and gives it out at night. Hence all maritime places have milder climates than there. The variations of temperature are less extreme & less sudden, Too current Continents are compared in respect to area in according to their

106 Climate 30° N. & S. of the Equator. Hot Temperate 300-550 N. or S. 550 to pole N. or S. Cold Annual Mean. BECKEREL'S Tomid 800 Fahr. Marm. Temperate 50° Polar I Isothermal Lines !

Soithet of Asia) coupt (9) coast lines. Africa has few indentations and is called continental curope has many more; America most his called oceanic. MOUNTAINS & Mountains also, have effect. By the peru going westward are deprived of their moisture by the Ander Hence Peru has no rain. The same thing is seen in our WESTERN TORIES, Western territories. The currents coming from the Pacific are deprived of their morsture making the coun-The effect of deserts is seen in Egypt. which has no rain. Desire Egypt. The trade winds were first discovered by columbus. They are our rents passing steadily from the east westward They are caused by unequal temperature of theair, modified by the revolution of the earth.) End. before There are always return currents. RETURNENTS

& although the winds which are felt to be most bamp in the Eastern Ch. Italy as here for instance, are Some of which, over the sea, especially, are a law or laws of her own. They generally travel from Ir. Low to New York in about 24 hours, It from New York to Newfourtand in another 24 hours. The region of low barometer is said, in the weather reports, to travel in the same may; when I is very low at Men York it is apr to be high at At Loud Istinfond Count, While ! storm to moving in a curve cashins, or E. N. E., the winds flow spirally inward towards the centre of the storm, making a great circuit around that centre; the 1 th storm. The direction of this volation in the U States is control to that of the hand of a watch; who a storm moves in a rotary money, with same region, it is in the same direction as the hands of a watch.

Monsoons, in hot climates, are 6 mos. MONSOONS. in one direction and 6 mos. in the opposite. They depend on the posilion of the sunthanny with consideration as land and sea breezes, of day smaper. On our continent, theotomorphich bring storms, come from the west and south west; Oceanic currents are complex. They are caused by differences of density of water, evby the difference of the specific gravities of land & Water. Dr. Calenters late meetigation -They are often interrupted by continents. That which comes from the South & West of Africa, goes up STREAM. the coast of South America. When it enters the Sulf of Mexico, it is turned off and sent over to tenrope; Gulf Stream: it of the Alaska Clements of climate (rage 104). Classification (page 106). Beekerel's (106.) ISOTHERMALS LINES Humboldt was the originator of

Curry (certated) in n. latitude 750 Mean of august, Phile, 78.77; of June, July & august 78.92°.
1864 V5 had august alone over 793 mean of the 3 months leasthan " * 2 1857, same place, 342 wifell in 24 hrs. Marsharo, Brazil, 280 % ir . pa annum. (Ame parts of Louisiana 68) & Charles A no. of craining days in S. V. W. of England 171, in England altogether, 163 a year, Lake rigin over 200 > Water Brance 34 har hard for My

THE stations which the expeditions organised by the American government intend to occupy for the purpose of observing the transit of Venus will be mostly on the islands and coasts of the isothermal lis Pacific Ocean, from New Zealand on the south to the Aleutian Islands on the north, and from the Sandwich Islands on the east to China on the west. Telescopes and photographic apparatus FIXTREMES. EXTREMES. for eight 'stations have been ordered from the firm of Alvan Clark & Sons, Cambridgeport, Massachusetts, and it is probable 1-11 the apparatus will be of American manufacture. At Men Stoner, July 1918 1 tele Olive four 10214 in the reghest in 89 years Them in that 4 100°, This the longest continued July 15th or 1868, newspaper reported that the work of who at montred 1060 10 4 40 5. -14 at Medbille Island: In Philas, the coldest night was the Jan. 7th. 1866 .- 140; St. Louis -18°: Bangor. Me. -40°; Richmond-10°; Hartford -200; Liebec, -40'20 (temperature of freezing mercury) Amount of Rain: A MAUNIFIUEN I LIA AMOUNT OF RAIN. For 1873. there are few vainy It is a well-known fact that there are many bout 90 inches in 2/21 things that cannot be done in a day, though, 183 inches is the mean as the world grows older, the new and various combinations in the arts and sciences alifornia 3 inches; Castinno 51) render short and easy some processes that have been slow and difficult. A few years Continue the Contin DIFFERENCE ago an oil painting was so much of a rarity, THE CONTINENTS, climates, it is 77 in by reason of the positive limitation of the supply, that only the very wealthy could afford to possess one. To-day the windows 7 115 in the new. In of our fancy stores are lined with pictures Blygon include 1870 Philoso 10. 1 & to a Villa at 12. In houdly

o Lir J. E. Ross found a tribe of savages K Civing (isolated) in N. Catitude 75 Freshay July 17th 1866 Nottest Der Stife from? now heart any July 2000 1855-40 in shale soul of lept to the Desmone of 1872 hothet on record around Phila, &c:-Mean of August, Philo, 789.77; of June, July & August, 78.92°. 1864 × 5 had August alone over 799, mem of the 3 months brother 12. # 2 1857, same place, 342 wifall in 24 hrs. Marshoo, Brazil, 280 x ir . pa annum. THE HOTTEST MONTH. The Philadelphia Medical Times presents some Lourerana 68) statistics from observations made in Philadelphia which go to show that the month of August, 1872, was the hottest August on record y days in S. VW. of England 171, in for the past eighty-three years. The mean temperature was 81.64 degrees, the highest point reached 97 degrees. The average mean temperature of the same month for the past eighty-three years was 73.33 degrees, and the highest mean temperature during all that time was that for the year 1872. A similar comparison of observations reveals the fact that 34 m Lay of My last summer, as a whole, was the hottest on record. The mean temperature for the three summer months of 1872 was 80.09 degrees; the average for the past eighty-three years, 73.67 degrees; and the highest mean during that Notten Com entire period was that of the year 1872.

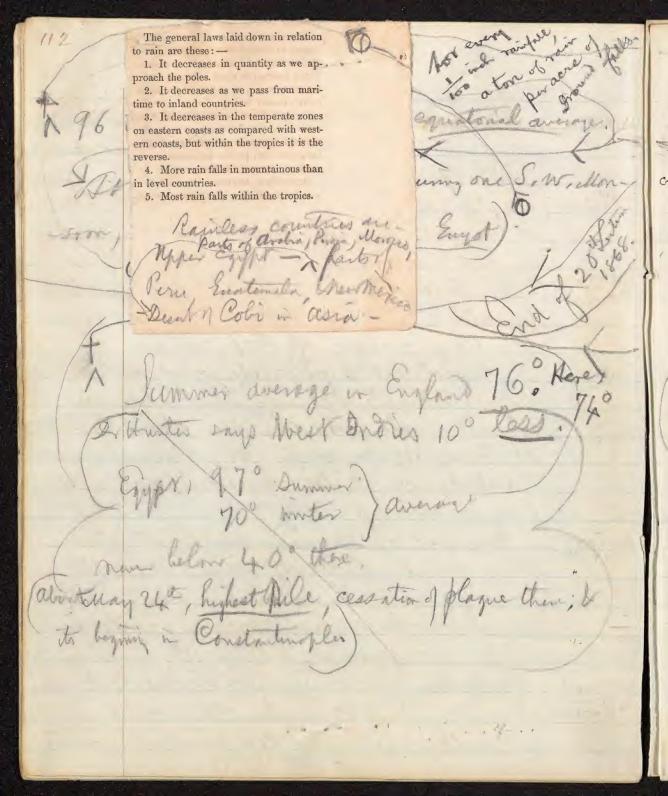
THE stations which the expeditions organised by the American government intend to occupy for the purpose of observing the transit of Venus will be mostly on the islands and coasts of the Pacific Ocean, from New Zealand on the south to the Aleutian isothermal Islands on the north, and from the Sandwich Islands on the east to China on the west. Telescopes and photographic apparatus for eight 'stations have been ordered from the firm of Alvan F.XTREMES. EXTREMES. Clark & Sons, Cambridgeport, Massachusetts, and it is probable that nearly all the apparatus will be of American manufacture. shade in the WE regret to announce the death of W. J. Macquern Rankine, on California Dec. 24, 1872, Professor of Engineering in Glasgow University. We hope next week to give an account of his life and labours. on, WE regret to have to announce the death of Mr. Archibald Smith, LL.D., F.R.S., of Jordan Hall, Lanarkshire. Mr. Smith was born in 1814, studied at Glasgow and Cambridge Universities, being in 1836 Senior Wrangler and first Smith's Prizeman in the latter; the second wrangler was Bishop Colenso. Key We He afterwards went to the Chancery bar, devoting his leisure to mathematical studies, his contributions to science being of high DEEP SELLARS practical value. He was employed by Government to make a metic survey of the Antarctic regions, in connection with perature from spring water or from the temperature of deep cellars. he coldect lemperature recorded, is -14 Jat Melhille Island: In Phila, the coldest- night was the fan. 7th. 1866. - 14°; St. Louis -18; Bangor. Me. -40; Richmond-100; Hartford -200; Liebec, -402° (temperature of freezing mercury Delevery or pour closed Amount of Rain: In Australia. AMOUNT OF RAIN. there are few raines days. bout 92 inches in 2's hours. 183 inches is the mean Oregon, 60; 3 inches; Cayenno, 51) Phila. 42; Yondon 20 etween the continents in DIFFERANCE THE CONTINENTS, climates, it is 77 in the old world, 115 in the new. In temperate climates

THE Scientific American contains some interesting statistics found a bribe of Savages concerning the extremes of heat to which various parts of the world are subject. Probably the hottest country is Thibet, though its most southern part is 30° from the equator, its extreme summer temperature reaching to the height of 150°. The fact that the night temperature, even in summer, sometimes sinks to the freezing point, only serves to aggravate the discomfort of this extreme heat. Next come! Senegal and Guadaloupe, with a maximum temperature of 130°, that of Persia being 125°, while the maximum of Calcutta and the delta of the Ganges is 5° less. In Cape Colony and the African diamond diggings the midsummer heat is 105°, that of Greece being only one degree less, while that of the comparatively far north city of Montreal is only one degree less than Greece, and one more than New York. In Great Britain, Siam, and Peru, the extreme does not exceed 85°, while that of Siberia is as high as 77°, two degrees higher than in Scotland, and four above that of Italy, In Patagonia and the Falkland Islands the highest is 55°, ten degrees above that of Southern Iceland. In Nova Zembla the maximum temperature is only 34°, two degrees above the freezing point of water. Meret fothe frommer of 1872 hottest on record around Phila &:-Mean of august, Phile, 78.77; of June, July & duguet, 78.92°. \$ 2 1857, Same place, 342 in fell in 24 hours renhano, Brazil, 280 % in per aunum. THE HOTTEST MONTH. The Philadelphia Medical Times presents some statistics from observations made in Philadelphia which go to show that the month of August, 1872, was the hottest August on record for the past eighty-three years. The mean days in S. VW. of England 171, in temperature was 81.64 degrees, the highest point reached 97 degrees. The average mean temperature of the same month for the past eighty-three years was 73.33 degrees, and the highest mean temperature during all that time was that for the year 1872. A similar comparison of observations reveals the fact that last summer, as a whole, was the hottest on record. The mean temperature for the three 34 may 24. for summer months of 1872 was 80.09 degrees; the average for the past eighty-three years, 73.67 degrees; and the highest mean during that entire period was that of the year 1872.

Cameron gives -92°, in 55° X. Lat. isothermal lines. EXTREMES. The highest heat in the shade in the W. S. is 113° in Lexas and California Next-sit Louis !070: Washington, HICHEST 103°; Philadelphia 40. The highest mean for a year in the W.S. is 146°- x20 78° 19° We may determined the average temperature from spring water or from the temperature of deep cellars. he coldect lemperature recorded, is -14 Tat Mellville Island: In Philas, the coldest night was the fan. 1th. 1866 .- 140; St. Louis -18°; Bangor. Me. -40°; Richmond-10°, Hartford -200; Liebec, -40'2° (temperature of freezing mercury) Amount of Rain: In Australia, AMOUNT OF RAIN. bout 92 inches in 2'z hours. En Vera Cruz, 183 inches is the mean Oregon, 60; At Johna alfornia, 3 inches; Casjenno, 51) Thila. 42; London 20 Participant the continents in the tropical THE CONTINENTS. climates; it is 77 in the old world, & 115 in the new. In temperate climates

. Not and routine 1 96 in pu annum (Humboldt) equational average. It Cheraporijie, Inder, during one S. Willow. 500 605 1/4 in fell. (See Engst). Demmer average in England 76. Here) Egypt) 97° Dummer average now below 40° there about way 24th, highest file cessation of plague then; &

the most beatturn of our meter. The usual forms of lightning are the zigzag or forked sharply defined, - the sheet-lightning, illuminating a whole cloud, which it seems to open, - heat-lightning, not emanating from any cloud, but apparently diffused through the air and without report. There are also fireballs which shoot across the sky, leaving a train often visible for seconds and minutes. These proper last, when they project any masses to the earth, are termed aërolites. COMPARISON ATURE Atmospheric electricity has much to do with the distribution of rain, the precipita-Australius, J. 1 Hot climatesaire favorable to un FAVORABLE LUXURIANT riant organic life. They produce ORGANIC LIFE. largest trees and animals. ORIGIN AN n man. Man origi cirlisation originates



August 82 12 dept, 82 13 Od, 780 Nov. 69 April 100, May 770 Juno 8716 Guly 86° COMPARISON PATURE Capple for & years: Man Cemperature at Court UMITON AL Hot climatesaire favorable to un HEAT BLE FAVOR TO ANT ORGANIC LIVE. riant organic life. They produce the largest trees and animals. They have a stimulating effects-ORIGIN AN for the tropics. All great religions & civilization originated in them. However, they produce a fulle

Jummer average in England 76. Here) Huster says West Indies 100 loss . 74 Mpr 97° Dummer average now below 40° these abortonay 24th, highest faile cessation of plague them; &

COMPARISON CATURE AMERICA COLDER. Hot climatesaire favorable to men FAVORABLE PAVOR TO LANT ORGANIC LIFE. riant organic life. They produce the largest trees and animals. hey have a stimulating ORIGIN AN on man. Man origin for the tropics. All & civilization originated i

fall the peat explemed selegion order to have had tropical origins; In Rossin, Lorouster; Confuceres to China; Willon-Buddha in Julia; pagenionin Seece, Wellong Christians Syria; mahometanism in Arabia! Beaguerel, Because carlier 1 5 4. Wolney ask - were the old assyring wholen troposed people? Or the mile? Here Versenus of Cypus? Phoneins - Car 740 -thogenetars - Romany - Erecks?" Mar? " is annual !- where are the non below 40° thee. abouterray 24th, highest pile cessation of plague there; &

it is 34 in the old, & 39 in the new. Hence this continent has an advantage over the old temperature; of the W.S. it is colder than the same talitude of Europe. In Phila, it the average is 530. Naples 620; Pekin, 520. These places have about the same latitude The amount of land to the north of us makes our continent colder. Another reason is the Gulf Stream One effect of this difference is that the limit of malarial fevers is higher in Europe than in America. In Europe, it is 4 1/2°; in America 472°; Australia 57°S. Hot climatesaire favorable to lunuriant organic life. They produce the largest trees and animals. They have a stimulating effectson man. Han originally came for the tropics. All great religions & civilization originated in them However, they produce a fulle

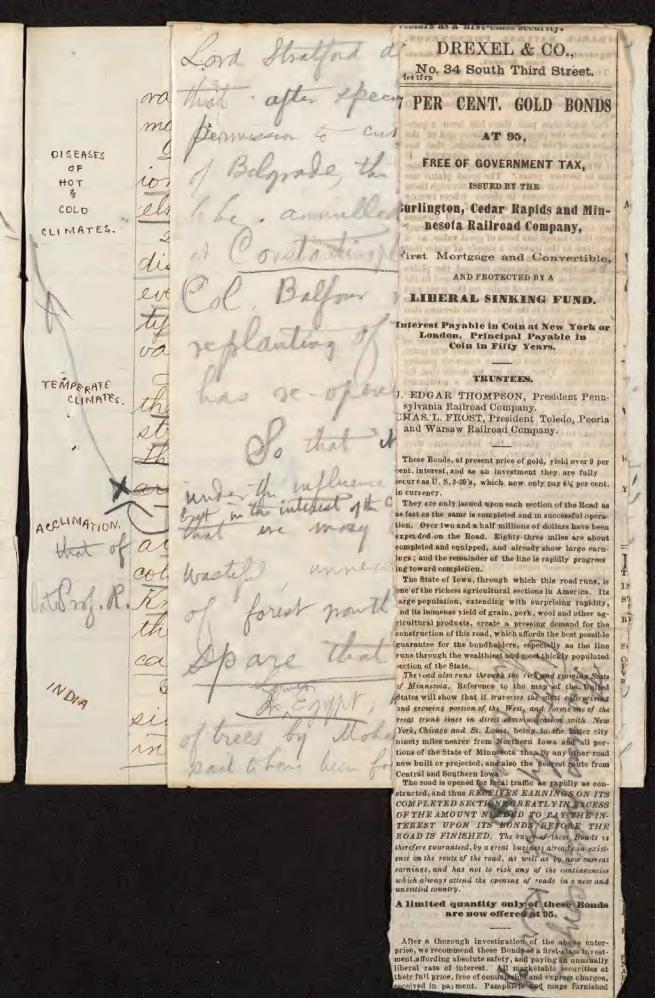
Letter has been meters of the south of the s a bony that rain follows Es of 24 Lecture, 1873 Ex of 9th Sections, 1872. 1778 the in my trees

eet. BONDS DISEASES λX, OF HOT id Min-COLD My. CLIMATES. ertible, UND. York or le in TEMPERATE lent Penn-CLIMATES do, Peoria dd over 9 per are fully 6% per cent. f the Road as as fast as the same is completed and in successful opera-ACCLIMATION. tion. Over two and a half millions of dollars have been expended on the Road. Eighty-three miles are about completed and equipped, and already show large carnings; and the remainder of the line is rapidly progress TIT ing toward completion. The State of Iowa, through which this road runs, is IN one of the richest agricultural sections in America. Its 83 arge population, extending with surprising rapidity, nd its immense yield of grain, pork, wool and other ag-RF ricultural products, create a pressing demand for the construction of this road, which affords the best possible guarantee for the bondholders, especially as the line Si runs through the wealthiest and most thickly populated section of the State.

The road also runs through the rich and growing State INDIA of Minnesota. Reference to the map of the United States will show that it traverses the most enterprising and growing portion of the West, and forms one of the creat trunk lines in direct communication with New York, Chicago and St. Louis, being to the latter city ninety miles nearer from Northern Iowa and all portions of the State of Minnesota than by any other road new built or projected, and also the nearest route from Central and Southern Iowa.

The road is opened for local traffic as rapidly as constructed, and thus RECEIVES EARNINGS ON ITS COMPLETED SECTION CREATLY IN BACESS OF THE AMOUNT NEEDED TO PAY THE IN-TEREST UPON ITS BONDS REFORE THE ROAD IS FINISHED. The buyer of these Bonds as therefore guaranteed, by a great business already in exist-ence on the route of the road, as well as by now current earnings, and has not to risk any of the contingencies which always attend the opening of roads in a new and unsettled country. A limited quantity only of these Bonds are now offered at 95. After a thorough investigation of the above enter-After a inorough investigation of the above enter-prise, we recommend these Bonds as a first class invest-ment affording absolute safety, and paying an unusually liberal rate of interest. All impressible securities at their full price, free of coming and express charges, received in payment. Pamphies and maps furnished

the australia Sistrict Ballarat, Since De. be changed? forting began in 1863 pm the 4.1868, a seg. Somme of rounfall went on - from 37,27 in. 614,23 in. had Oscari, The governor ther afforts on Desporter of tos to Culting done of rests dury our year was has allered our I ast well the senger vary a la sentere from for Lecture the arrayer of the person century. my so state of the sold of the XDr Rush trust the good count of submood जी के I have may trees all and the city. 104/21-



A Que tratia Sisting Jakarak Some forting began in 1863 Une 6,1868 a seg. if reconfull won't 37,27 in. 678,23 Occur, The govern as worth on disposts of En Es Culling down of rests dung one part was high altered our The ast well the seasons accounts of the from ca Love neck meneuves to Enists her destruction XD Ruel trought the good small in Phalada after 1978 the original are in my trees all around the cutil

STRANGE NATURAL PHENOMENON.

Physical Changes in the Great Ameri-can Desert.

The Inland Empire has the following remarkable statement concerning the process of change going on all over the great inland desert between California and Missouri. It

For some time past there has been a question before the people of this basin and of the plains east of the Rocky Mountains, that has as yet failed to be satisfactorily answered. It is: Why are the streams carrying more water than in former years? The great plains are fast losing their arid nature, and through them fast losing their arm hature, and shrough them are running streams in places where twenty years ago there was not a drop of water; and where at that time there were small streams they are now very much enlarged. In many cases this change has been of great value, as it bas given to the traveler a supply of water that had previously been denied.

When the first emigrants crossed the plains to California, the great objection urged to the trip was the scarcity of water on the great part of the route. Within a few years this has been all changed, and in the beds of old streams that were dry when first found there is now water for all the purposes required.

The Laramie plains are not now destitute of water, whereas some years ago there was none. and the traveler had to carry water on passing over them. There can be no doubt that for the last ten years there has been a continued increase of water throughout the whole desert country between the Missouri and the Sierra Nevada. The Arkansas was dry in 1862 from the Pawnee Fox to the Cimaron crossing, and previous to that time the Pecos was dried up so that at many places the inhabitants were obliged to dig for water. And the Moro Val-ley and Plains were at that time almost desti-tute of vegetation. Now the vegetation is luxurious, and it is one of the very best wheatgrowing sections.

Denver was built on the banks of an extinct creek, which it was supposed would remain dry, but after the settlement, to the astonishment of the people, it became quite a stream, and is now crossed by bridges. The Huerfano, the Roya Pecos, and others that were dry during the summer months ten years ago, are now constantly running in fair streams. We are satisfied that along the whole line of the Union Pacific Railroad there is much more moisture in the earth than there was only a few years since. Again, Salt Lake is seven feet higher than it was ten years ago, and it is constantly rising, and it has been urged by those who have paid attention to the subject, that the rise of water there would produce a solution of the Mormon question before Congress would act upon it. When the Salt Lake shall rise a few feet higher we shall look for its overflow to reach the Shell Creek range, as evidently at one time as water did cover what is now only an arid valley, not direct in its course, but cut up with ranges, still the continued valley can be traced. This great increase of water will work a great revolution in the opinion of the people as to the capacity

et the great plains for agricultural purposes.

The only reason why the great plains cannot be made into good fruit farms is the lack of water and timber, as the land in richness has no superior. The increase of water of which we have spoken will do away with one objection, and the discovery of coal over a distance east of Salt Lake for over six bundred miles will obviate the other. The man who travels over the Union Pacific Railroad twenty years from this time will find that the sage brush has given way to crops of all kinds growing in the greatest luxuriance, and that the sturdy farmers with happy homes have taken the places of the wandering red men. In our own State this increase of moisture has been noticed, and the old settlers do not hesitate to say that in many places the streams have increased more than one-fourth in size during the past five years, and in some places where there was no water then there is now small

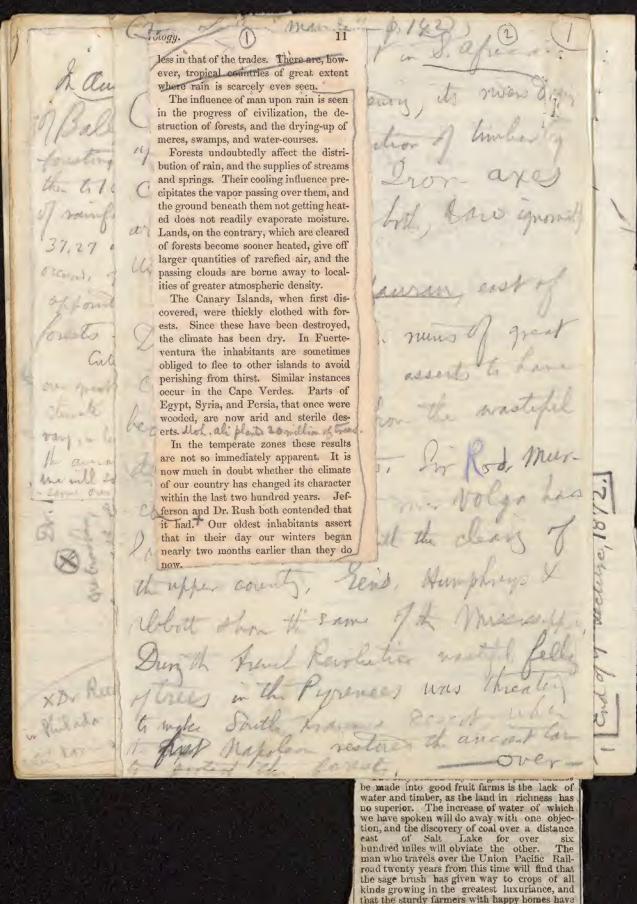
but constantly running streams.

Lord Strafford de Redeliffe testifont ora that after speculators had obtained ion of Belgrade, the contract had els the annually as the reserving eve Col, Balfor narrotes how the va replanting of trees in order TEMPRRATE CLIMATES. the . It of that it need not be only ACCUMATION. That we may cry advantage of wanting of wanting of wanting of wanting of wanting of wanting of that we may cry against all that of as wasteful unrecess any woodman, the forest pout _ woodman, si trees by Mosamon Ali Parks is now in their best their ben follows by a decided increase of rain.

The Kalanori desert in Dayre (Jas 2 mlear is extendy, its rivers diff, up, with destruction of limberty Colonists & natures. From axes are now plenty aways both. I are ignorally The country of Marrison, east of Damasaux, storiety in nums of great 62 60 Cities, Enjil France asserts to fine become unimbabitable from the wasteful Ulino E destruction of forests. In Rod, murchien says that the wor. Volga has i last in magnitude will the cleans of the upper county, reins, Humphreys & abbott show the same of the Museury Dunth French Kerolution metal felle XB Ral of trees in the Pyreness was threater to make South his restore de ancient la be made into good fruit farms is the lack of water and timber, as the land in richness has no superior. The increase of water of which we have spoken will do away with one objection, and the discovery of coal over a distance east of Salt Lake for over six bundred miles will obviate the other. The man who travels over the Union Pacific Railroad twenty years from this time will find that the sage brush has given way to crops of all kinds growing in the greatest luxuriance, and that the sturdy farmers with happy homes have taken the places of the wandering red men. In our own State this increase of moisture has been noticed, and the old settlers do not hesitate to say that in many places the streams have increased more than one-fourth in size during the past five years, and in some places where there was no water then there is now small

but constantly running streams.

The rainless regions, not deserts, are parts of Guatemala, the table-land of Mexico, the Peruvian coast, parts of Morocco, Egypt, Arabia, Persia, etc. The electric character of the air is another subject of interest, and a leading DISEASES one in Meteorology. What can be more OF magnificent, what more awful, than those HOT storms of lightning and thunder which are witnessed sometimes even in our own COLD latitudes? LIMATES Faraday, who as a chemist and philosophical writer is of the highest authority, professes to have demonstrated that one single grain of water contains as much electricity as can be accumulated in eight hundred thousand Leyden jars, each requiring to charge it thirty turns of the large machine at the Royal Institution. It is not intended that this astounding statement should be received without some grains of allowance; but a very elegant and scientific writer, who adopts TEMPERATE it without hesitation, adds, "We can from CLIMATES this crystal sphere [of water] evoke heat, light, electricity in enormous quantities, and beyond these we can see powers or forces for which, in the poverty of our ideas and our words, we have not names." Flashes of electricity have been detected, during warm, close weather, issuing from some species of plants. Tuberose and African Marigold have been seen to emit these mimic lightnings. (Goethe is the authority for this.) To atmospheric electricity we doubtless owe the coruscations of the Aurora, one of the "coloribles and some



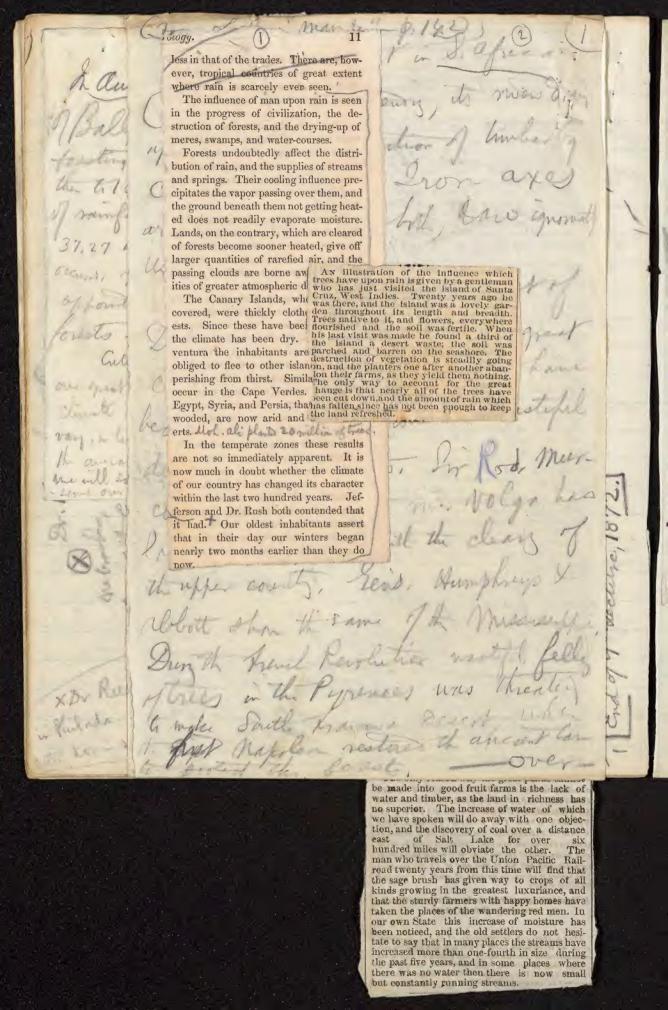
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race of men. Heat is depressing to mans intellectual powers. Diseases of the bropics are, affect-DISEASES HOT COLD sus of the school children, recently taken by the police, has not yet been prepared for publication. The following is given as the result of the census in the Twenty-second Ward, with the exception of the eighth precinct, there the number being estimated:

Precincls.

Number of Children.**

Precincls.** LIMATES stunted: The highest civilization and TEMPERATE CLIMATES without delerioration. t is not. Her soupe Anglo-Saxon ca is generaling; INDIA It has been considered impro sible to acclimate the



race of men. Heat is depressing to mans intellectual powers. Diseases of the tropics are, affections of the liver, stomach, and bowels, & malarial & yellow fevers; Chrende COLD In colderegions There is not much disease, but the men are slunted; every thing is depressed severy, typhoid fever & preumonice pre-The highest civilization and in the lemberate climates. Here the strongest races of men exist. The variations of the thermometer ACCIMATION. An important question is that of acclimation. Is it possible to colonize without deterioration? Know sail it is not. They ways that the Anglo-Saxon race in Ameriex is generating, me don't dint INDIA sible to acclimate the English in India; but the opinion is

Effects of Climateon Races 1867. & a Controller; a Huntier Pickey - Lyll - Huyley Darwing then

UNITY TO DETHE QUESTION 2. 3. 4. 6. Ist: ANATOMICAL MINATION, INTERMIXTURE, NATURAL HISTORY.

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Races - superity Races

Paulistas of Sh. Paul, Brazil; Indian & (spanial) -Papours of Nu Sumen Kafusos S. am., hutan bugues The fires ! F Grigues, Dutel Hottentoly Peterim whanders - Sactors of Bounty, 1790 - mtt Polynesians -9 Englist man - 6 Polymonin men & 6 ditte nomen_ Mutual assissination, Befr in 1793 het tuntilik of white mer - the Polynsian women & some children; 17 99, ouf 2 Anglishin Ceft. - Huyley Met, in 1856, 189 persons; more than a summer of them to tripled in 31 years, Don after deported to white 1870, a number State for

gaining gre sible. He pos he so. enther in n' B UNITY AMAS which ilitis TANOF A of acclinia species?" y follows of contract To determi 2000 TO DETHE PUESTION in several 1. Compare elly. 2. Reproducti 3. Natural h 4. Historical 5. Iraditions. 6. Language. Ist. We find n ANATOMICAL NON, ferences believe INTERMINTURE, ownoly. Different races can introd intermarry and produce Children This is witnessed in Mexico and of America, as well as in our Southern states. NATURAL HISTORY. ences among species of animals which are derived from the same original stock. Thus there are

Pener Spaces the comon consanguit of races - separated Paces
theory & unges & lajes that interis - mixture always injures & Sh. Paul, Brazil; denies this - Brown or ortention?) all stin De Tomany Nu Suman face of descritor sedon It same softan S. am., hustan Onegwes grand declary of outel Hottentols Menres 1 = un changed ha Costytel/so. wlanders - Sactors of Commer (Sal) + Polynesias -6 Polymon men & 6 Ditte some 9 English man -Mutual assassination, Befr in 1793 het the Polyneian women & some - Ly white mer -- Possible children; 17 Jet, ouf 2 Anglishin - Ceft. - Huyley Met, a 1856, 189 persons; more than tripled in 31 years, Son after deported Winted 1870 a number State fages.

gaining gressible. pos 01 le 20. dnotherin 6 n B AMA which UNITY chity 74 OF A of acclimat one species?" y follows of To determi eed TO DETHE INE QUESTION in several s elly. 1. Compare 2. Reproducti 3. Natural h 4. Historical orgument. 5. Iraditions. 1. Will War & Word & Commence of the Commence o 1st. We find no anatomical dif-ANATOMICAL NON, INTERMINTURE. Mutholy. Different races can introd intermarry and produce children This is witnessed in Mexico and I America, as well as in our Southern states 3 rdy, We see just as great differences among species of animals NATURAL HISTORY. which are derived from the same original slock. Thus there are

Belleting Societé de pares - supartific Paces
The spologie of fan - a good anthopological Rever In Paul, Brazul; Report of the Commission. of Agua onthe population Chile - (Pome Bay) States tomber?) that of 1, 300,000 pop, 20,000 of he pure Indians. Some mulatta la Euman many mesticos, no hegral, fem., hutam onegroes grant, a story of Henres 13 butil & Hottentoly wlanders - Darlow of Contracted to ren Charges from Earmony little by + Polynesians -6 Polymon men & 6 ditte women 9 English man -Mutual assessmation, Befr in 1793 het the Polyneian women & some of white mer children; 17 99, ouf 2 Anglishin Ceft. - Angley Met, a 1856, 189 persons; more than tripled in 31 years, Son after deported Visted 1870, a rember Statefages.

gaining ground that it is possible. Horene Mightingale asserts is to be so. enther interesting question & UNITY ARRA which bears on capability of acclimation, is "is man one So determine this well proceed in several ways. TO DETHE INE QUESTION 1. Compare races anatomically. 2. Reproductive union. 3. Natural history of and species. 4. Historical orgument. well find no anatomical dif-ANATOMICALMION, ferences between different vaces. INTERMINTURE, durinoly. Different races can tentrod intermarry and produce Children. This is witnessed in Mexico and I America, as well as in our Southern states of animals NATURAL HISTORY. which are derived from the same original stock. Thus there are

In chief factors in animal variation; 1. dinate - 2. Donnotheatron; in man; for the latter we live toffent tennos contexations > Unwered traditions: Creation of the pair; Deluge leaving only one family; Darrifices, blood to appeare durnity; A Durne deliverer assuming the form of man. (Corcumowion). Other Am XX And, Mightine

diversities horses be all intainly of common ancient origin. HISTORY. 4thly. History shows that nowhere Even presistion races, Lecture XXI migratory, found. TRADITION. Traditions confirm the testimony of higcoincided, as the deluge, &c. Mysting LANGUAGE, Language is a powerful argument There are close affinities in all languages There is a physiology of language. Max Miller & Darwin. The greatest argument for the GRADATION LS. unity of man, is the gradation of vaces. Dumboldt was convinced of this. The contrast which is seen in America is the exception, not the Africa alone will illustrate this All Africans are not negroes. They AFRICA. are a minority. The Ogyptiansarea transition be-EGYPTIANS. tween the negro and the white man Sull nose, thick lips, characterized them,

but they were by no means negroes. The Berber is an African but of the Semilic race The Galla tribe next to Egypt, like the Cofits are half way between the GALLA TRIBE. Egyptian and negro. There are local causes which LOCAL affect the complexion. On mount-CAUSES. ains, the complexion is fair; on lowlands it is dark. Inper cooling" Oven in color, there are shades COLOR. of difference; as in assuring the Nile. The Bushman has hair like BUSHMAN. a scrubbing brush.

There is a variety among BLACK OCEANIC BES. the Oceanic Islands, In Africa There is no ground for the doctrine of the diversity of man. There is a close coincidence COINCIDENCE RACE IN ATE, between race & climate. In wet lowlands there are black races.

At beginny of the hour, at throwisity, one student only, present; a few came afterwards; less than ten in the whole boul. for the last two weeks my average does has been grove than ten. Drs aller, wood botanden, about he some ; Measo tills me his class is 22 or 23.

Even in India & California, black races exist Draper of New York, says that the sun cooks the complexion, which DRAPER'S THEORY. really does vary according to the intensity of the sun homes Relieus zovere. THEORY OFTHE UNITY. Two difficulties with which those who, argue for the unity, have to contend are: \\. Contact of Whiteman of the Antiquities of Egypt. DR. MORTON'S Dr. Morton proved to his own salisfaction, that all American vace. While contending for the same versity, he did much towards establishing the therety of the unity. On the tombs of Egypt, unaces are deficted, proving that 3000 years ago, there were different naces. However these lombs are not the oldest egyptian remains. The history of that country has been entended back much further

124 Linnous, Criffer, Cuvier, Alex Humbolst, Dir W. Humboldt, Richard Orver) My Chas Small, Dana, & Brokand, D. Pickering of the Wilkers W. S. Expl. Expedition, Quatrefugas, one of the first of Franch naturalists, In the Lebook , Pros. of authopolog. For of Lower, Vanthor of a work on Prohistone Many XX Deplumen, Mary Miller Dawson. Against, - the Cate De Sun Morton, Prof. Know of Loden, Agustic (in a peculiar way) , Infectionly, Gliddon the Egyptotoger, 2. note filleble, Hammen of the note of the note of the making archipe 30 -End of 22 w Lecture 196%. Cut of 10th Lecture, 1872. End of 25th Lecture, 1843.

Time had been allowed, wenthen, for variation to take place. The Egyptian is intermediate between the Indo-European & the Semilie races. The authorities for the theory of the unity of man, are 20 Twent Supple Sichard & Richering, formerly, to raise objections against the unity of man. DARVIN'S THEORY. Darvin asserts that there is no evidence that the lione, dog, care sembor that climate & locality make r ferences between the Italians, Germans, onglish and French. The trab has a symmetrical ARAB. long face, with features strongly pronounced. The few has large nose knouch. JEW, The Maltese has Equare face MALTESE The Statian is remarkable for ITALIAN.

Localized Diseases. Barbadows Lag? Malarial Fevers Ben-lon Egyption Ophthalms Fungus Foot Yellow Ferry Guinea worn't Pellagra Oriental Plague Phisa Polonica Bilhavia Enders Dysenting Fortre & Cretinism Nomina Siprony Whilst Laughing Disease. Prood Take wom. Nothangy Abest africa.

Davis, polygonist, (cited by Luct the countenance Dante). vess of visage. reforme des Cours Scruttfran across white your. 1868 poss) paratable of the specially of the Just fages unus, against from nerican. These tower mor disparagement of the dustration, of the lower that testimony of Start, Englished, to positions our stock is, the testimony of Start and the area our stock is, 1: English. hove the human place are started approximately were good.

Proper view and the one were good.

Proper view and the English to be and the sound of the Medium sland.

the action of the Medium reguage, cli. Dumont of wrolle all at 6 we are
hove the human in all at 6 we are
prove the human in all at 6 we are 2. Caffres 7. Esquerranx 8. Ermans 9, Delorand 13. Japanese 16. Frenchum 20. Negroes 23. North annien 25,14,00 the action the talong riquage, clithe action the core provided abound;
beginning with the substitute and abound;
continues, with substitute to. 26. australians 27. Bushner when the above considerations seem to settle the fact that the human

Lungary Pomotis only ares) balances they for sever (weeks on its app Barbadoes Lag? greption Ophthalms dea cat - (Pernelodus Catus) Proms menta worms day followed by its young, as a hereby Bilharzea Salmon espo mont hat day worn the important when last Again the day light ally the important Front Take-worm argy of best afren. the fast that the same function is performed in many deflacer modes, & by delfour organs extructures in dif Ferent animals of the same habitet, Aunition then, he might say, to a factor.

at least the need of purpose of a function is

so. Strength. 1. English 71.4 & 16.3

2. French 69.2 & 15.2

3. Malays 58. 74.11.6

4. australiay 50.8 \$ 10.2

5. Tarrian 50.5

the length of the ovalof the countenance Dante. The Spaniard has largeness of visage. SPANIARD German, width of face aws uppg your. GERMAN, Englishman convexity of face in prople. Englishman roundness, expecially of FRENCHMAN. ENGLISHMAN Leoth something like American. The SCOT American, triangularity of the lower AMERICAN. part of the face. composition our stock is, Even in this country we are getting a cast of face. It is sup-posed that there is gradual approx imation to the Indian vace. A. Lincoln & H. Clay were good specimens of Americans! V translar to difference from the English is in the length & narrowness of the face even in New England. DIFFERENCE LANGUAGE. As in color soxin language, chimate has an influence. In south ern tongues, vowel sounds abound; in northern, consonants. when the above considerations seem to settle the fact that the human

* much longer for its total modefication. Negro chandles, for motern, - probably 1000 years. And probably not all con fost again. Bitish in E. HW. Indies have drunk too much spirits, were and beer; worse in India than in England, Scotland or Ireland. Meppocentes - Monteaginen - Michelet Brokle -

species is one, This has at important bearing on acclimation. From the it follows that there can be no limit to the action of one stock, where We have an example in the negros inmunity from malarial NEG RO. fevers. Then he comes to America, he toses this immunitation some your times, It takes a very long time for he acclimationed a raclist The question which now arises MAN AGEMENT. is, what management is best to the We must not transport the habits of one chimned to another Thisis what causes the great mortality of the English in India Those get along best, who conform to the habits of the natives some dinter are whomas of the natives with adoptat ADAPTATION CONTINENTS. ion of continents to different races. The structure of the continents shows that they are adapted to certain stages of and tendeput & listery.

X Remarkable difference in the mental developer to / E. & W, Asia; Wealrow or speritueling of by V naterialism or at least realism of Chine. Native has much to do not both - her aspects impressing the minds of mon free growth to generation. The wountains are wast, but they are to explore But the oceaning, like a fate, instantable, inserable; It has men in, and drives themselven their own resources. So the Brake of most mystical most mystical and all philosophias; the Chinese, thousands of years ago, fastened then minds upon the present, And the near past of their ancestors, whom they worshipped. Their institutions, and wer then certified much the same as they were in the days Confueros,

Western Gentral great deserts, In Asia, there is vastness; lofly table lands, large mountains re. about contrasts of climate. This gives a status and civilization and rangue Carvaers Reepintribes apart In Ourope there is a multitude OF of lesser contrasts. The rivers and mountains are less. The waterx and land intermingle, The ra-Ces havefalcetaine relation to each wind the cradle of manking on the cradle of manking on the second of market of the second of market of the second of market of the second of the greatest while the greatest while the greatest while the greatest while the second of t of all the continents. There is no Succession of barriers east-kwest, The great rivers & mountains run north & south It has all varieties of climate. There is a tendency to fusion by gradations. I. Am one nation by shiping lest & highest development with the The Leutonic stock, to which belong the Germans, Englished.

132 Derprenacy of Tentonic wer over the most active I intelligent of the Latin (so-called, - but mixed and portly Celtar races has been just now (1871) for some time fresh by the Franco- Prussia war. But we need not rejoice in this stall went so far is it is the temporary humiliation and enfectlement of the once pamerful French nation, Rather let us hope that both will, now, with advancement of Gentlization, in free and grow strong together; the Copposition of The English to the propers of the sent on race, no one has write. more elegantly them brof Carson, in the introduction to his history of the medical department of the University of Fenny lower, the says, -Conqueror of the Roman Empire, and the legitimate inheritor of its Long, the brace of Tentons has sent its sons broadcast over the earth, and has its offshorts, as flourishing community, on every continent! we are in they land to day mainly the representation of a confination which has never lost a foot of soil to which it has been transformed, nor yielded, by force of arms, to any rival or competitor for supremacy; for where Anglo-Saxon domination has been carried, there it has been permanently established End 1 22 Deture, 1868 american a composite race.

males. There races have deviated blost strength. This lecture will be closed by CLIMATE D FOR SUNIFIVES, consideration of the climates most suited for consumptives. Statestics show that it is an errow to suppose that the colder cut honey are the worst following. It is Mearness to I have level of the sea which influenget it. The higher a place, the less phthisis. Dampus - (Bonditer) Burners) Mat is most wanted is a climate not very warm nor cold; dry & RESO RTS not subjected to extremes: equalle. The following places are confor siderect as good & are resorted to: South of France & Staly Color - Malta, Madeira, Cuba & Bolorida, HEALTH. Some go north to take Superior by the Winter has A. California in Winter, & Newport in Summer.

134 Warmest Materials. MARMEST AL. 1. Wool, or furs. 2. Silk. 3. Cotton, e.g. muslin. 4. Linen. Clothing 1. Must be sufficient. 2. Must not be excessive in amount or in pressure. 3. Properly distributed over the body 4 Permeable to air & moisture. 5. Changed for cleanliness. 718 Baths Cold ____ 32° to 70° Fahr ection Cool _____ 70° " 85° " Tepid 850 " 900 ... " 960 960 .. Hot Vapor bath __ 1000 .. 1200 Hot air bath _ 1300 " 2500" Medicated baths:-Carbonie acidulous. Sulpherrous Chalybeate, &c.

very conveniently, in the medical statistics of the U.S. any, Vecture XXII. The worded states are divided MILITARY into 3 silitary districts. 1st. the DIVISIONS OF Allantic, from the Atlantic Ocean to the Alleghany mountains. End. the Middle, from the the Alleghany to the Rocky Ind the Pacific, from 2 mg the Focky Mts, to the Pacific Ocean. COMPARTING Wellhe mortality was, Atlantic, 33.4 in MORTALITY MADE MINE MORTALITY WAS Pacific 10.76. 1000; Middle, 82.19; Pacific, 10.76. The cause of the greate mortality of the middle district, is the prev-The intensity of states diseases is greater in certain places than FEVER. in others. The farther south we go, the more remittent & pernicions fever we meet some places (as New England) where malaria formerly existed, are now exempt. The most northern limits of yellow YELLOW FEVER fever, are Boston & Providence Dyssentery has a local causes. There DYSENTERY. is often a great difference in a couple of

136 Role from several huntred cases in 1 1870 - in M. M & Philadn Ben Strusago (1844) Chymer) Thistel, the "laughing disease"; some-timed fatal in a few days, Seeping source or lethough, of W. aprin I

y monte melarion; may have dypenting. 137 miles If a place is on low ground but thigh ground is near it this is seen in Germantown. Timestone water is said to favor LIME STONE WATER. discretery. It is a matter for ingrirus. Mountain fever met with in the far MOUNTAIN ER. West, is supposed to be a modification of typhoid fever was local in Europe. RELAPSINGER. The localization of the plaque in PLAGUE. the East, it well known. It is dying out, Its confagion is denied Among the local diseases, not zymotie, en :- goitre; remyt has a combination of causes; want of light & air, excess of line & magnesia in the water schole intermentalocal anemia disease of the limbs, as homby. PELAGRA. Fellagra, a disease of the skin, is commonin France, Spain, & staly, It is incorrectly supposed to be

althou POLISH TWIST OF THE HAIR. NORWEGIAN ST. LEPROSY, ment depressed while spots) et such exists in Siria and it is said even in South America (Johnston & Physical Atter), Stations ELEPHANTIASIS. Hour One are the grave of are common in Africa. The Guinea norm, Eft-long gets into the cellular tissue. It is softenin duced to leave the body by going into running, water. Bathing often so the cause of their getting in the flesh.

* Western of the long enquiry pullarity zeign for him a maise after parla verdet Notores of cure theer focus ours morning people nelve Wirkelison Discount heart barbie wer rare and Si africa Carrier rare in New Kerlend)
Si africa La March Rev. Au 1863/300
Supphilos not contar in Pacific Islands— Mary States of the

POLISH OF THE HAIR. NORWEGIAN ST. aux LEPROSY, repressed while spots, et sur exists Siria and it is said Physica Q d Liei Nov. 15, 1871] BOOKS AND PAMPHLETS RECEIVED. Clinical Examination of Urine, with a Description of a Convenient Apparatus for its Speedy Analysis. By Reuben A. Vance, M.D. A Contribution to the Treatment of the Versions and Flexions of the Unimpregnated Uterus. By Ephraim Cutter, A.M., M.D. Reprinted from the Journal of the Gynacological Annual Announcement of the Trustees and Faculty of the Medical College of the State of South Carolina. Session of Ilea of the Ophthalmoscope in Diseases of the Nerve Mushey or will PAR ASITES.

Kowsel of Cars, after 20 years [Nov. 15, 1871 plied by the name, the principal and sole symptom is lethargy. The patient, usually an adult male, is seized, without premonitory symptoms, with drowsiness, which continues to increase in spite of all efforts to throw it off, until he sinks into a profound and seemingly natural sleep, which continues for about twenty-one days, when death occurs. Throughout the patient preserves a quiet and peaceful countenance, may be easily roused for a short time, will take nourishment, and generally answers a few questions in a rational manner. The pulse, respiration, and temperature remain normal throughout, the pupil maintains its normal size, and the rine and fæces are regularly voided. Remedies avail nothing, and post-mortem examinations by spetent men reveal no lesion.

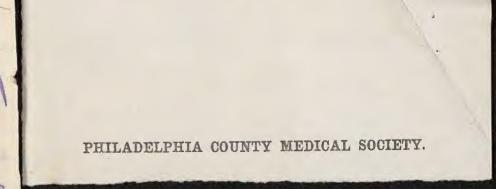
althour constitution makes of probable that a discuss of 39 althour Canaling in many account for it to be alting Indian committee that a be pland twest of the hair, is caused POLISH IST Sorvegian le prosif is plantiar los fishermen servein history It aux Some derivatologist, having OF THE HAIR NORWEGIAN ST. LEPROSY, depressed white spots, It still exists Volema in Sigria and it is said even in South America (Johnston 5 Physical Attes), Stephone Clephantiasis of the Arabs, is atticks Anglica: But pirth to s, child, which she had murdered.

PITT ING FROM SMALLPOX.—Dr. Rendle, in a letter to The Practitioner for October, recommends the application of cotton-wool to the face and neck of patients suffering with smallpox to Short One out of every Sheeping Browns are two causes out to avoid the dampness of lower Egypt the glare of Toppen Egypt. The Guinea worm, Eft-long gets into the cellular tissue. It is popularin duced to leave the body by going into running water. Bathing often is the cause of their getting in the flesh.

A Roussel of Paris, after 20 years (asked LETHARGUS .- Dr. Thomas H. Bailey publishes in the New York Medical World for October, 1871, an account of this "singular and invariably fatal malady, peculiar to the negroes of certain districts on the western coast of Africa." As imthe pulse, respiration, and temperature remain normal throughout, the pupil maintains its normal size, and the rine and fæces are regularly voided. Remedies avail nothing, and post-mortem examinations by spetent men reveal no lesion.

althour mustigation makes of probable that a discuss of the concaused by eating sondian convictable of the hair, is caused by eating sondian commonly stated to be polared twest of the hair, is caused a some demand of the son and comments of the son and some demand of the son and son a POLISH TWIST DE THE HAIR. by a minute vegetation some dismatoliste. Say of Sultiar to fishermen before obscure in history It cants NORWEGIAN ST. LEPROSY, depressed white spots, It still exists I amburel Johnson in Sigria and it is said even in South America (Johnton & Physical Aller), Stopping Clephantiasis of the Arabs, is athicks ELEPHANTIASIS ening of the limbs, etexists even in America: Buly seg. OPTHALMIA. Opthalmat is common in Egypt Hour One out of every six are blind. There out to avoid the army and the other the dampness of Lower Egypt? the glare of Copper Egypt. The Guinea worm, Eft-long gets into the cellular tissue. It is porternin. duced to leave the body by going into running water. Bathing often as the cause of their getting in the flesh.

and of 23d Lecture 1867 End 22 Letan , 1870 Indeed, W. Vergenn, South Ohis Indeed; une ommon in New England the culfitates. End of 20th Lecture, 5 mo. 11th, 1874. The largest class I have ever had So far on in the course; ~ sometimes 30 to 40 1875, at same period of the Course, class about as large as in &



Jud of 23d Latine 1867 End 22 Letter , 1870 Tone & grand an commonin: Englan, Francy Tenenff, Iceland Joseph 3 Segypt - (Russia) - & north Italy & Racin Snehen, normy, Osome and took part of austrian Dominion in Version? Jenessing W. Vergenn , South Ohis Indrewn; uncommon in New England Ithe culfitates 3 End of 20th Lecture, 5 mo. 11th, 1874. The largest class I have ever had So far on in the course; of sometimes 30 to 40 god for 1875, at same period of the Course, class about as large as in &

F. 23d Lecture 1867 End 22 Letter , 1870 PHILADELPHIA COUNTY MEDICAL SOCIETY. Sense, W. Vergenor, South Ohis Interior; uncommon in New England the culpitates. End of 20th Lecture, 5 mo. 11th, 1874. The largest class I have ever had So far on in the course; a sometimes 30 to 40 1875, at same period of the Course, class about as large as in